

AMENDMENTS TO THE CLAIMS

Claims 1-16 (Withdrawn)

Claim 17 (Original) The apparatus according to claim 13, wherein said electrolytic or chemical polishing section includes:

a substrate holder for holding a substrate with its surface downward;

a cathode plate immersed in a polishing liquid and located facing the lower surface of the substrate held by said substrate holder; and

a relative movement mechanism for allowing the substrate held by said substrate holder and said cathode plate to move relatively.

Claim 18 (Currently Amended) The apparatus according to claim 17 +4, further comprising:

a plurality of grooves extending over the full length of said cathode plate in the surface thereof; and

a plurality of polishing liquid feed holes formed in said cathode plate for feeding the polishing liquid to said grooves, said plurality of polishing liquid feed holes communicating with said grooves.

Claim 19 (Currently Amended) The apparatus according to claim 17 +4, wherein said relative movement mechanism comprises a substrate-rotating mechanism for rotating the substrate and a cathode plate-moving mechanism for rotating, reciprocating, or eccentrically rotating said cathode plate, or making a scroll motion of said cathode plate.

Claim 20 (Original) The apparatus according to claim 19, further comprising:

a plurality of grooves extending over the full length of said cathode plate in the surface thereof; and

a plurality of polishing liquid feed holes formed in said cathode plate for feeding the polishing liquid to said grooves, said plurality of polishing liquid feed holes communicating with said grooves.

Claim 21 (Original) The apparatus according to claim 17, wherein said substrate holder is constructed to hold the substrate in a vacuum attraction manner or in an electrostatic chucking manner.

Claim 22 (Original) The apparatus according to claim 17, wherein said cathode plate is composed of a material having a poor adhesion to copper.

Claim 23 (Original) The apparatus according to claim 13, further comprising a cap-plating treatment section for forming a protective film which selectively covers and protects the exposed surface of copper interconnects.

Claim 24 (Original) The apparatus according to claim 23, wherein said cap-plating treatment section includes a Pd-attaching treatment section and an electroless CoWP-plating section.

Claims 25-39 (Withdrawn)

Claim 40 (Original) An apparatus for forming interconnects by forming a copper film on a surface of a substrate to fill copper into fine recesses formed in the surface of the substrate, comprising:
a loading/unloading section;
a copper-plating section;
an electrolytic or chemical polishing section; and
a transporting device for transporting the substrate.

Claim 41 (Original) An apparatus for forming interconnects by forming a copper film on a surface of a substrate to fill copper into fine recesses formed in the surface of the substrate, comprising:
a loading/unloading section;
a copper-plating section;
an electrolytic or chemical polishing section;

an annealing section; and
a transporting device for transporting the substrate.

Claim 42 (Original) An apparatus for forming interconnects by forming a copper film on a surface of a substrate to fill copper into fine recesses formed in the surface of the substrate, comprising:

a loading/unloading section;
a copper-plating section;
an electrolytic or chemical polishing section;
an annealing section;
a cleaning section; and
a transporting device for transporting the substrate.

Claim 43 (Original) An apparatus for forming interconnects by forming a copper film on a surface of a substrate to fill copper into fine recesses formed in the surface of the substrate, comprising:

a loading/unloading section;
a copper-plating section;
an electrolytic or chemical polishing section;
an annealing section;
a cleaning section;
a chemical mechanical polishing section; and
a transporting device for transporting the substrate.

Claim 44 (Original) An apparatus for forming interconnects by forming a copper film on a surface of a substrate to fill copper into fine recesses formed in the surface of the substrate, comprising:

a loading/unloading section;
a copper-plating section;
an electrolytic or chemical polishing section;
an annealing section;

a cap-plating treatment section; and
a transporting device for transporting the substrate.

Claim 45 (Original) The apparatus according to claim 42, wherein said cleaning section also carries out drying of the substrate.

Claim 46 (Original) The apparatus according to claim 43, wherein said cleaning section also carries out drying of the substrate.

Claim 47 (Original) An apparatus for forming interconnects by forming a copper film on a surface of a substrate to fill copper into fine recesses formed in the surface of the substrate, comprising:

- a loading/unloading section;
- a copper-plating section;
- a first electrolytic or chemical polishing section;
- a second electrolytic or chemical polishing section;
- an annealing section; and
- a transporting device for transporting the substrate.